

## ABSTRACT OF THE INVENTION

Indirect access to local file systems is provided using storage tank protocols, allowing federation of a local file system into a distributed file system while preserving local access to the existing data in the local file system. The goal of the present system is to federate and migrate the data on a computer system with minimum disruption to applications operating on the computer system. Existing applications on a computer system continue to operate during data federation and migration and require little or no reconfiguration either when the data migration starts or when it ends. Data consistency is maintained: existing applications may modify data in the file system during migration or federation. During federation, other computer systems (or hosts) may modify the data in the file system if access control information allows them to do so. All changes in the file system are seen consistently on all hosts. Minimal downtime is required to install the present system and reconfigure the existing applications to communicate with the present system.